- generation, in each base node of the active set, of at least a first frame of soft bits on the basis of the received radio signal and a corresponding first frame of hard bits;

- transmission in the cellular network infrastructure, from each base node of the active set, of an accuracy indicator which results from an error check on the frame of hard bits;

- transmission, to the first radio network controller, of the said first frame of hard bits from a base node whose accuracy indicator has a so-called good level, if at least one accuracy indicator has the said good level;

- transmission, to the first radio network controller if no accuracy indicator has the said good level, of each of the first frames of soft bits from at least two base nodes and the combination in the first radio network controller of the transmitted frames of soft bits in order to generate a second frame of hard bits.

-- 2 (Amended). Method of communication on an uplink according to Claim 1, wherein:

- each accuracy indicator transmitted in the cellular network infrastructure for the said uplink is transmitted to the first radio network controller;

- the said first radio network controller, if it receives at least one accuracy indicator of good level, chooses that one of the base nodes whose accuracy indicator has the good level and requests the chosen base node to transmit to it the said first frame of hard bits;

- the said first radio network controller, if it does not receive any accuracy indicator of good level, chooses at least two base nodes and requests them to transmit to it their frames of soft bits.

-- 3 (Amended). Method of communication on an uplink according to Claim 2, wherein, among the nodes whose accuracy indicator has the good level, the said first radio network controller chooses the one from which it has first received the accuracy indicator.

-- 4 (Amended). Method of communication on an uplink according to Claim 2, wherein, among the nodes whose accuracy indicator has the good level, the first radio network controller chooses the one that meets filtering criteria.

-- 5 (Amended). Method of communication on an uplink according to Claim 2, comprising the following actions:

- transmission in the said cellular network, from at least two base nodes of the active set to the first radio network controller, of a quality indicator which results from a measurement of the signal received by the said base node;

- choosing, in the said first radio network controller, at least two base nodes with the best quality indicators received and requesting the chosen base nodes to transmit, to the said first radio network controller, the frames of soft bits from each chosen base node.

-- 6 (Amended). Method of communication on an uplink according to Claim 1, wherein:

- each accuracy indicator transmitted from another base node in the cellular network infrastructure for the said uplink, is transmitted to at least one base node of the said active set;

- each base node applies rules established between the base nodes to the quality indicators that it receives and transmits, in order to decide to transmit or not to transmit, to the said first radio network controller, the first frame of hard bits from that base node or the first frame of soft bits, in order that one of the first frames of hard bits whose accuracy indicator has a said good level is transmitted from a base node or that the frames of soft bits are transmitted from at least two base nodes in the absence of an accuracy indicator with the said good level.

-- 7 (Amended). Method of communication on an uplink according to Claim 1 wherein:
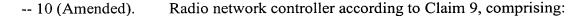
- at least one accuracy indicator transmitted in the cellular network infrastructure is transmitted to a second radio network controller;

- the said second radio network controller, if it receives an accuracy indicator with good level, transmits this accuracy indicator of good level to the first radio network controller, chooses that one of the base nodes whose accuracy indicator has the good level, transmits the accuracy indicator of good level to the first radio network controller and requests the chosen base node to send it to the said first frame of hard bits to provide for a transmission to the first radio network controller;

- the said radio network controller, if it does not receive an accuracy indicator of good level, chooses at least one base node and requests it to send to it its frame of soft bits to provide for a transmission to the first radio network controller.

-- 8 (Amended).   Method of communication on an uplink according to claim 1 furthermore comprising the following actions executed in a base node comprising a base controller and grouping several base stations:

- generation, in at least one base station of the base node, of a third frame of soft bits on the basis of the radio signal received from the user equipment by the said base station for the said uplink and a third frame of hard bits;

- transmission in the base node, from each base station receiving the radio signal for the said uplink, of a local accuracy indicator that results from an error check on the frame of hard bits;

- transmission, to the base controller, of the third frame of hard bits from a base station whose local accuracy indicator has the said good level, if at least one local accuracy indicator has the said good level;

- transmission, to the base controller, if no local accuracy indicator has the said good level, of the frame of soft bits from at least one base station and combination in the base controller of the frames of soft bits transmitted and generation of a fourth frame of hard bits;

- generation, in the base controller, of the accuracy indicator to be transmitted in the cellular network infrastructure such that the said accuracy indicator has the best

level between that of the local accuracy indicator and the one that results from an error check on the fourth frame of hard bits.

-- 9 (Amended).   Radio network controller for exploiting macrodiversity on an uplink between a user equipment and a cellular network infrastructure comprising an active set of base nodes which each receive radio signals transmitted by the said user equipment, comprising:

    - first means for receiving a first frame of hard bits transmitted by a base node and for receiving frames of soft bits transmitted by at least two base nodes;

    - second means for combining the said frames of soft bits and for generating a second frame of hard bits by combination of the said received frames of soft bits.

-- 10 (Amended).   Radio network controller according to Claim 9, comprising:

    - third means for receiving one or more accuracy indicators, each one transmitted by a base node;

    - fourth means for requesting, if a received accuracy indicator has a good level, a first frame of hard bits from the base node that has transmitted this accuracy indicator, and for requesting, if no accuracy indicator has the good level, frames of soft bits from at least two base nodes.

--11 (Amended).   Base node for exploiting the macrodiversity on an uplink between a user equipment and a radio network controller of a cellular network infrastructure, arranged to receive radio signals transmitted by the said user equipment, comprising:

    - first means for generating a frame of soft bits on the basis of the radio signal received by the said base node and a corresponding frame of hard bits:

    - second means for transmitting, in the cellular network infrastructure, an accuracy indicator that results from an error check on the frame of hard bits;

- third means for transmitting the frame of hard bits and for transmitting the frames of soft bits to the radio network controller [(12a, 15a)].

-- 12 (Amended). Base node according to Claim 11, comprising fourth means for receiving a request message from the radio network·controller and for activating the said third means in order to transmit the frame of hard bits or the frames of soft bits depending on the received request.

-- 13 (Amended). Base node according to Claim 11, comprising fourth means for receiving one or more accuracy indicators transmitted-by another base node and for activating the said third means in order to transmit the frame of hard bits or the frames of soft bits depending on the received accuracy indicator or indicators.